Potentially Avoidable Hospital Utilization at Rural Hospitals

The Data Innovation Lab at Mathematica

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About Mathematica

Established in 1968

We are the insight partner that illuminates the path to progress for public and private sector changemakers.

1,400+ employees

Our experts dive into urgent social challenges with rigor and objectivity to surface evidence and understanding that weathers the toughest tests.

Employee-owned since 1986

Reimagining the way the world gathers and uses data, we uncover the evidence that offers our partners the confidence and clarity they need to find out what can be done, how to make it happen, and where to go next.

Mathematica

Our mission: Improving public well-being by bringing the highest standards of quality, objectivity, and excellence to bear on information collection and analysis for our partners and clients.

The Data Innovation Lab

- Mathematica's Data Innovation Lab aims to create a bridge between decision makers and data by analyzing variations in total cost, quality, and access to care from the payer, provider, and population perspectives.
- We use national Medicare and Medicaid claims databases as well as other publicly available data sources and publish our work for public
- An interactive dashboard focusing on rural health hospitals aimed to provide analytical information to help make decisions on value-based payment models
  - Audience
    - Hospital executives
    - Health policy makers

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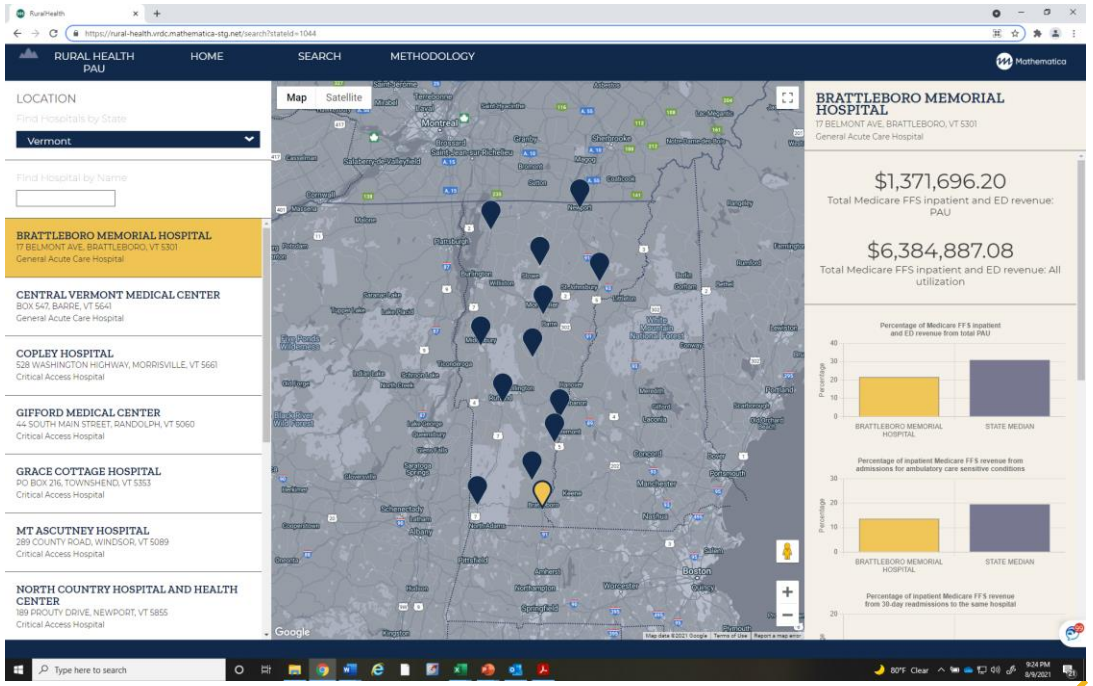
Measuring Avoidable Utilization at Hospitals

Potentially Avoidable Utilization

- PAU is defined as hospital care that is unplanned and can be prevented through improved care, care coordination, or effective community-based care.
- Three claims-based measures
  - Readmissions within 30-days
  - Ambulatory care sensitive admissions
  - Avoidable Emergency Department visits



30-Day All Cause Readmissions

- **Measures number of admissions within 30-day of initial admission for the patient**
- **National Committee for Quality Assurance (NCQA) Healthcare Effectiveness Data and Information Set (HEDIS) Plan All-Cause Readmissions (PCR) measure**
  - Excludes readmissions related to pregnancy and perinatal conditions, organ transplants, rehabilitation, chemotherapy, and other planned procedures
- **Among readmissions identified, only readmissions to the original hospital are used to quantify the avoidable utilization**

Ambulatory care sensitive inpatient hospitalizations

- **Prevention Quality Indicators (PQIs) developed by the Agency for Healthcare Research and Quality's (ARHQ)**
- **Includes admissions for one of the following conditions:**
  - Diabetes short-term complications
  - Diabetes long-term complications
  - Chronic obstructive pulmonary disease (COPD) or asthma in older adults
  - Hypertension
  - Heart failure
  - Bacterial pneumonia
  - Urinary tract infection
  - Uncontrolled diabetes
  - Asthma in younger adults
  - Lower extremity amputation among patients with diabetes

Avoidable Emergency Department Visits

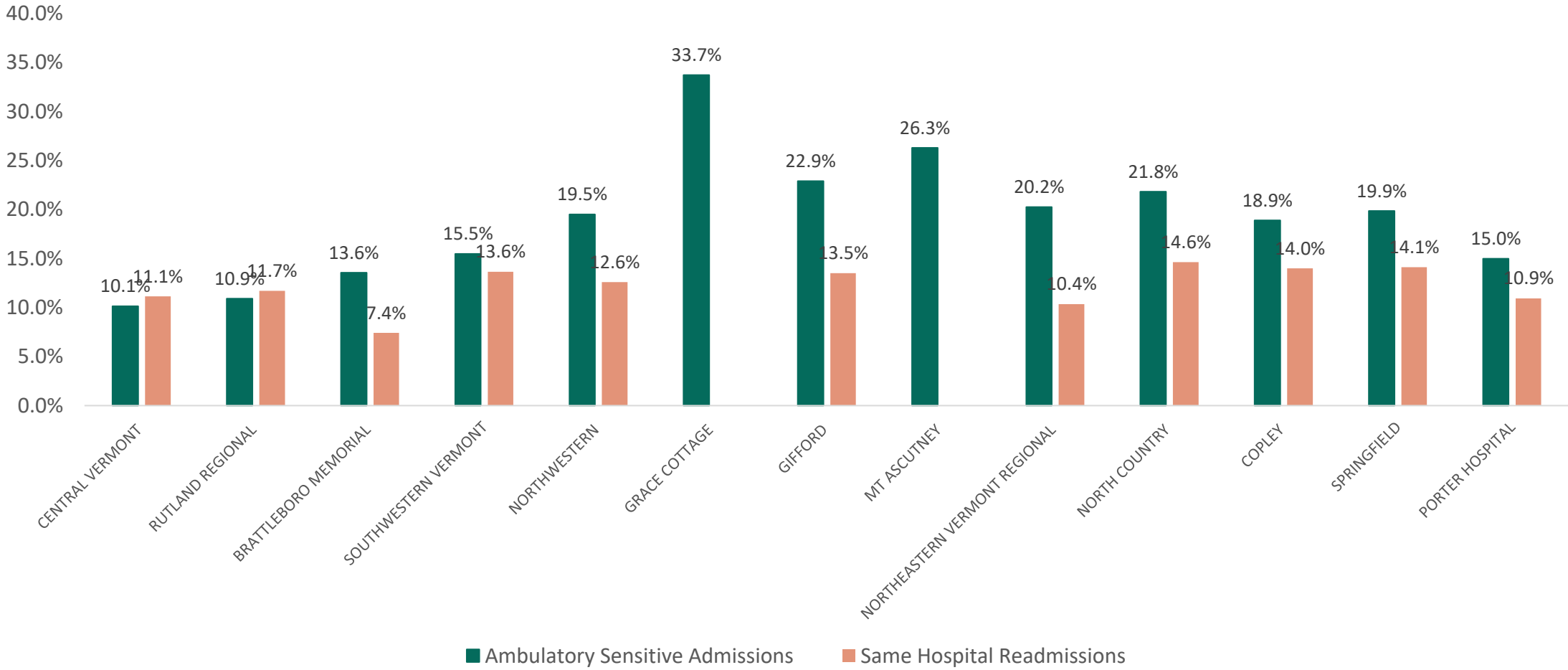
- **NYU Billings ED Algorithm**
- **ED visits with a primary diagnosis that falls into one of the algorithm's avoidable categories:**
  - **Non-emergent:** Cases where immediate medical care was not required within 12 hours
  - **Emergent/primary care treatable**: Cases where treatment was required within 12 hours, but adequate care could have been provided in a primary care setting
  - **Emergent- ED care needed – preventable/avoidable**: Cases where ED care was required at the time presented, but could have been prevented if the patient had access to effective ambulatory care

Summary Results for Rural Hospitals in Vermont

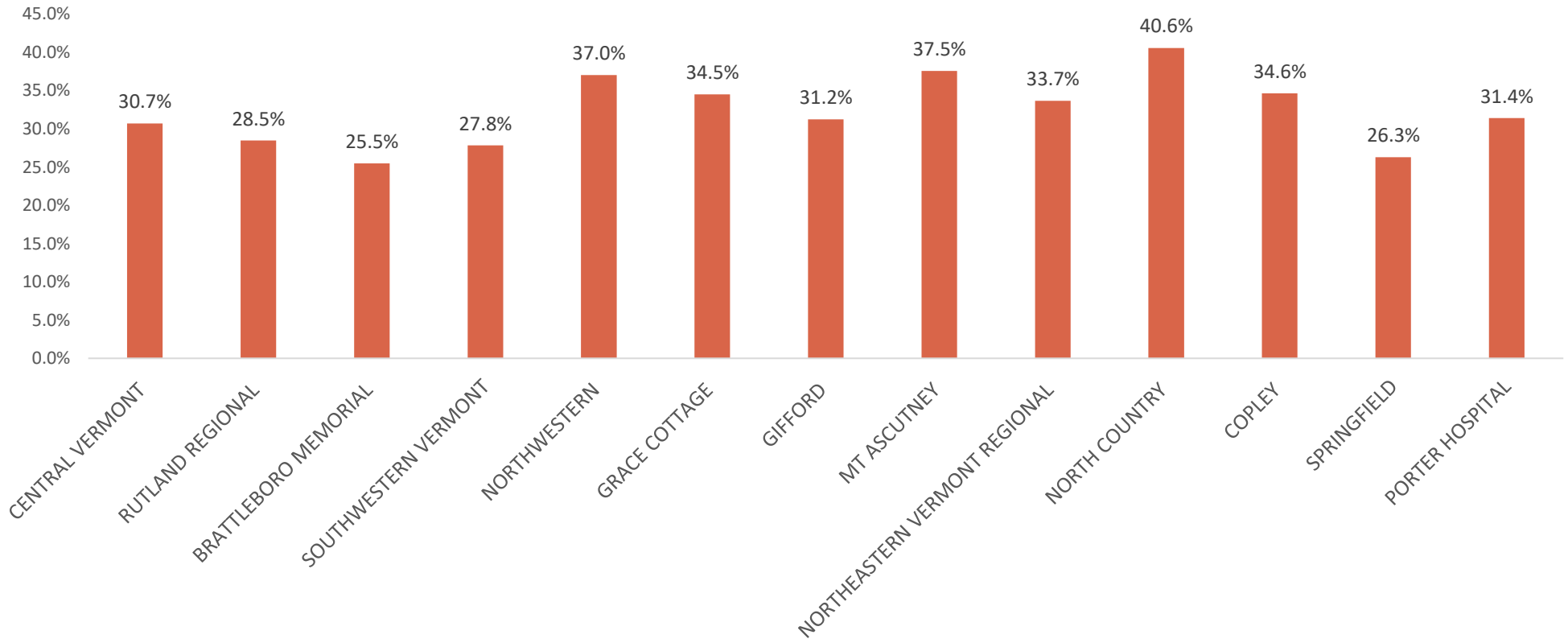
PAU Dashboard Specifics

- **Measures percent revenue in PAU for Traditional Medicare fee-for-service (FFS) only.**
  - Medicare FFS have the highest avoidable utilization rates
  - Denominator is total inpatient and emergency department revenues
- **Includes hospitals located in rural areas as defined by the Federal Office of Rural Health Policy**
- **If an admission classified as both readmissions and PQI, we included them only in PQI counts**

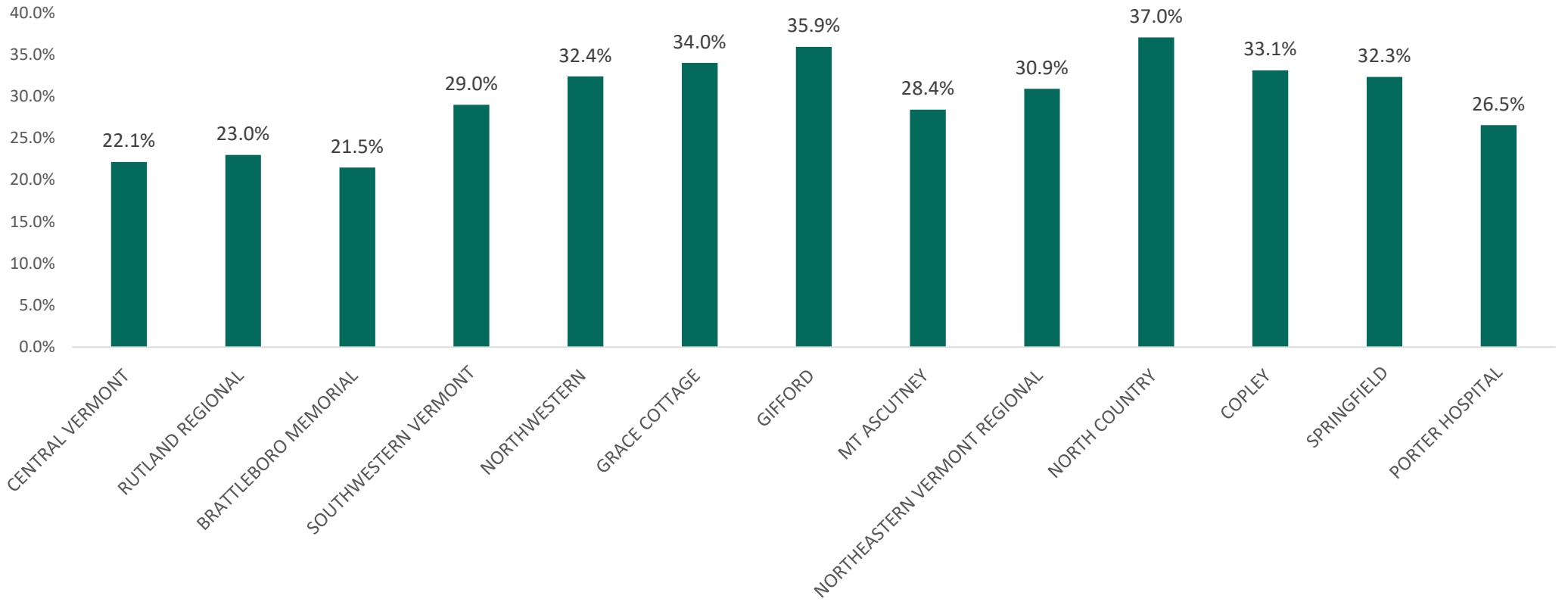
Proportion of Revenue in Avoidable Utilization- Inpatient



Proportion of Revenue in Avoidable Utilization- Emergency Department



Proportion of Revenue-Inpatient and ED combined



Policy Applications

Aligning Financial Incentives for Better and Efficient Care

/ Primary care

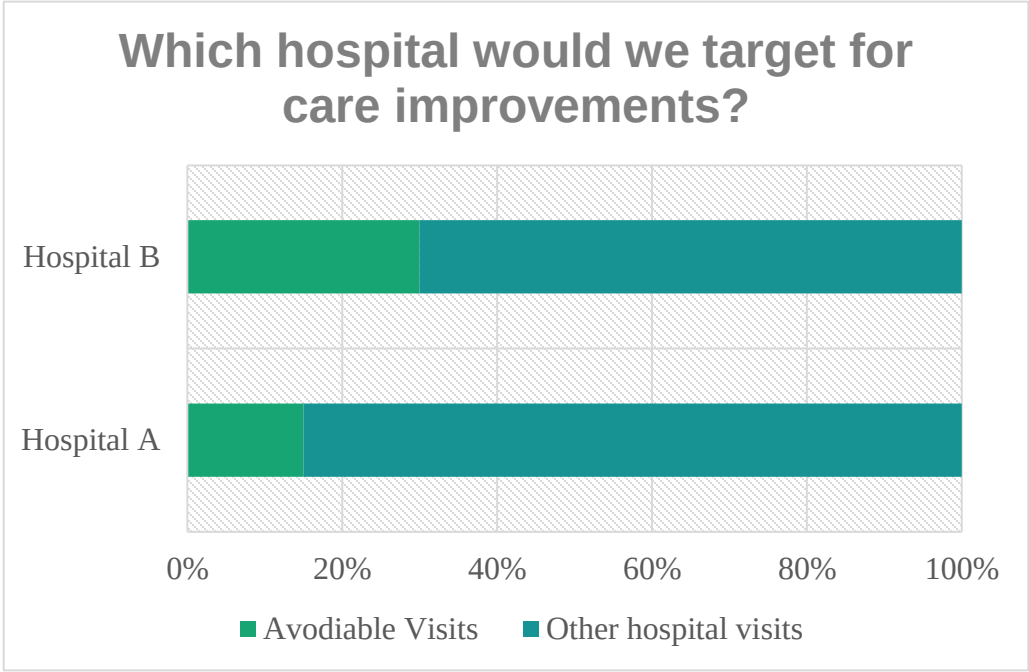
- Medical homes
- Accountable care organizations

/ Specialists & Hospitals

- Episode-based payments
- Accountable care organizations

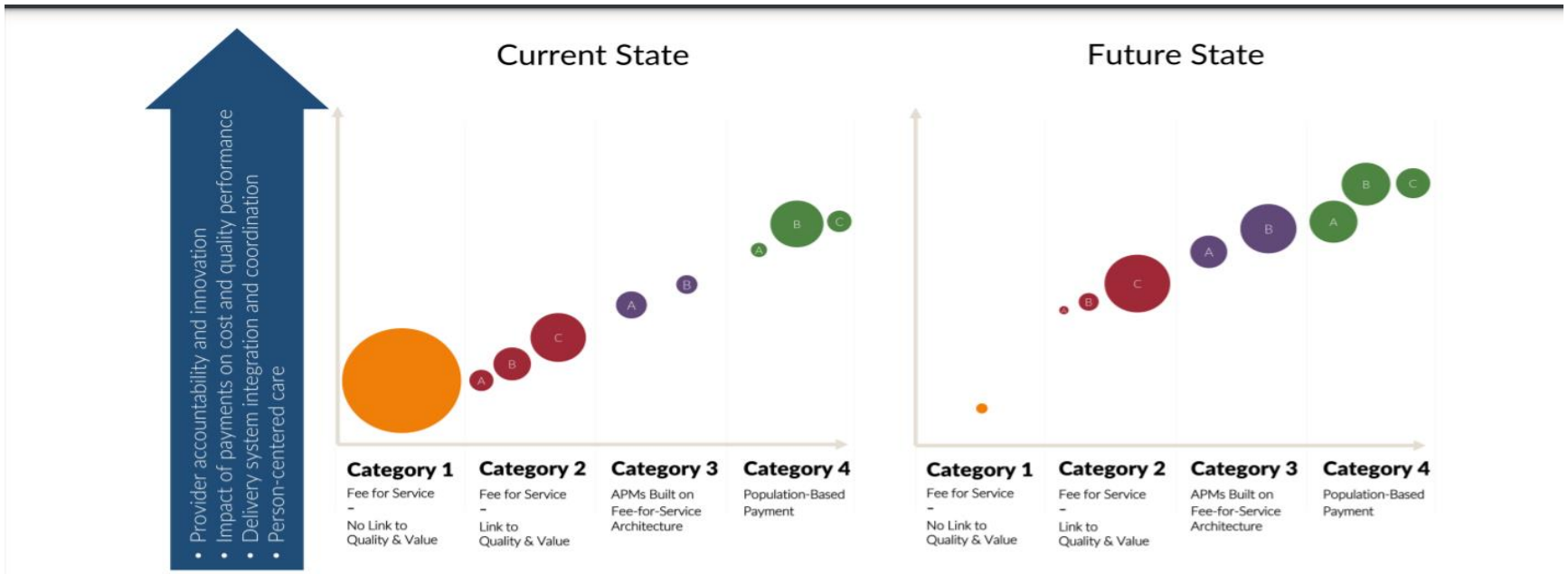
Better coordinated, high-quality care

Cost savings from hospitalizations, post-acute care utilization



PAUs are potential opportunities for savings under alternative payment models

Alternative Payment Models: Movement towards population-based payments

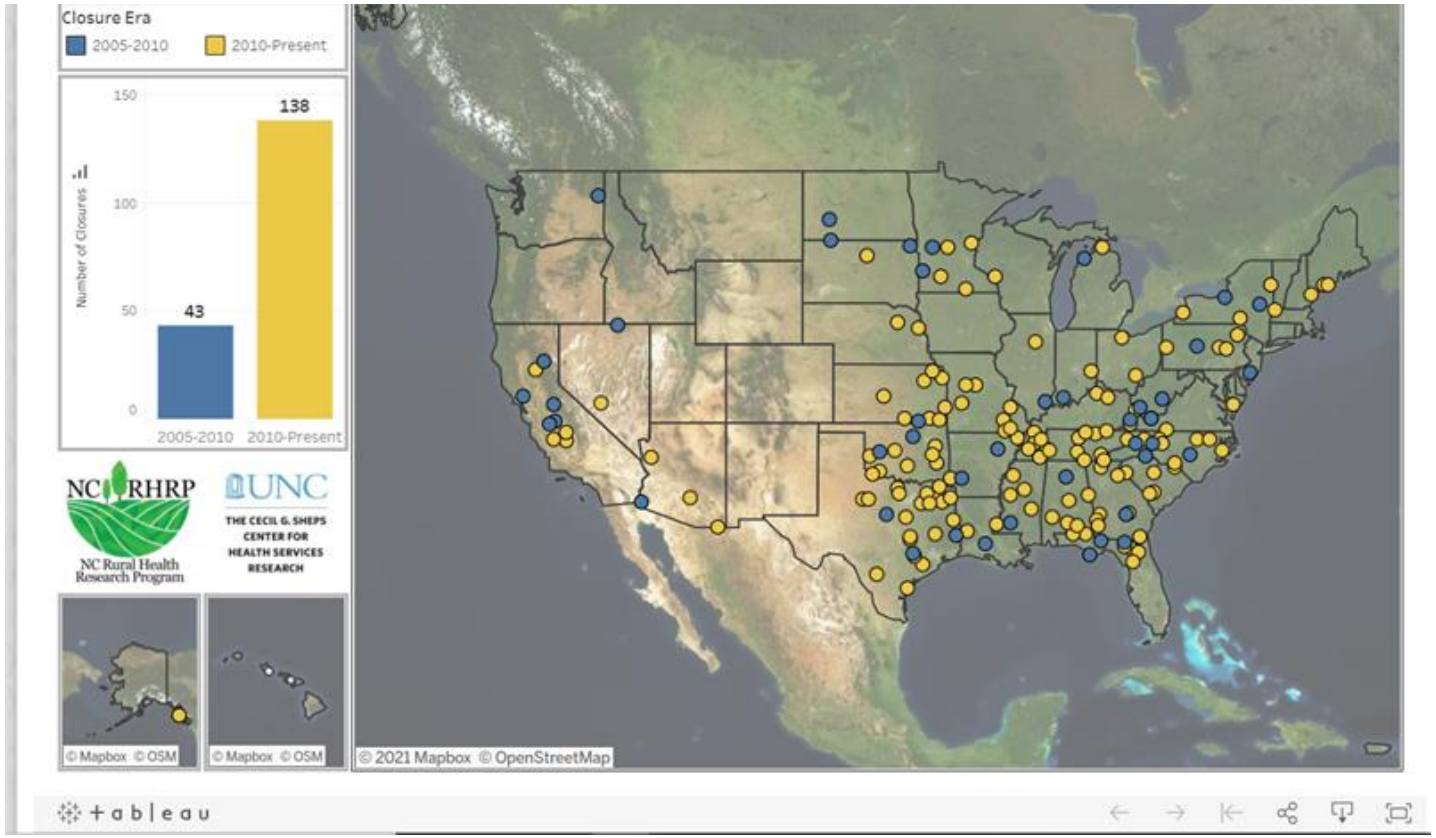


Note: The values presented in the above "current state" graphic are based on available data on private plans from Catalyst for Payment Reform and Medicare FFS allocations. This graphic is meant to represent recommendations for how the health care system should change, and it accounts for the likely impact of Medicare's Quality Payment Program and private initiatives. Values displayed in the graphic are not precise, and will depend on delivery capabilities, as described elsewhere in this document. The size of the various circles represents spending across various types of payment models. Payments are expected to shift over time from Categories 1 and 2 into Categories 3 and 4. Additionally and over time, APMs within a particular category will increase the extent to which payments are linked to provider accountability, enable more innovation in care, make a greater impact on quality and cost performance, increase coordination in delivery systems, and result in more value-based care.

Source: https://hcp-lan.org/workproducts/apm-figure-3-final.pdf

Disparities in access and health in rural areas

- **Rural hospital closures accelerated in the last decade**
- **Market consolidation has increased**
- **New payment models are emerging to change the business model for rural hospitals from volume to population health**
  - Focus on community needs
  - Improve access

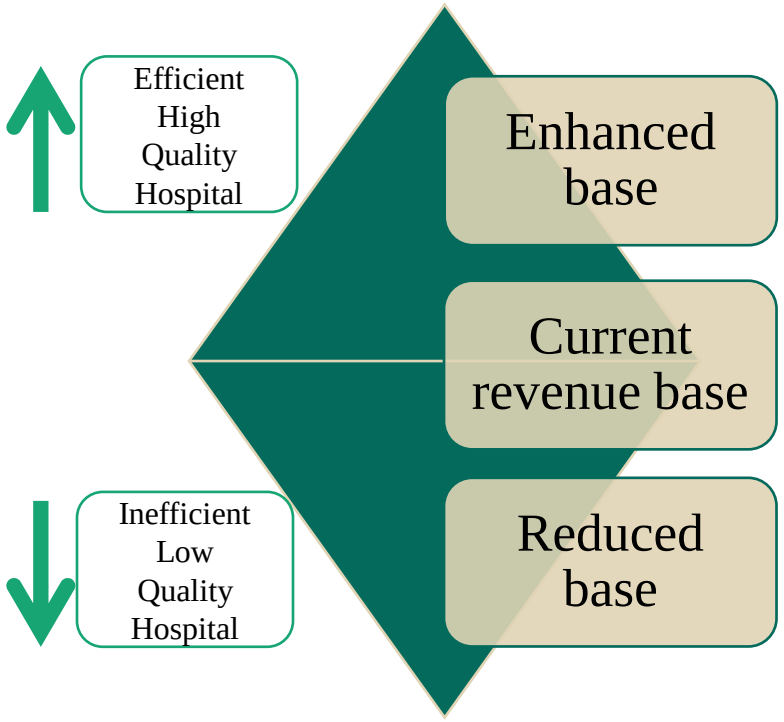


https://www.shepscenter.unc.edu/programs-projects/rural-health/rural-hospital-closures/

Global budget examples to align incentives for hospitals

- **Maryland and Pennsylvania are two states implementing global budgets**
  - MD Total Cost Model leverages all-payer rate setting and includes both urban and rural hospitals
  - PA Rural Health Model creates budgets for each payer separately and includes only rural hospitals
- **CMS's the Community Health Access and Rural Transformation (CHART) Model builds on the experience from these two states**
  - Two tracks : Global budgets and Accountable Care Model
  - Requires participation with other payers through conveners (could be a state)

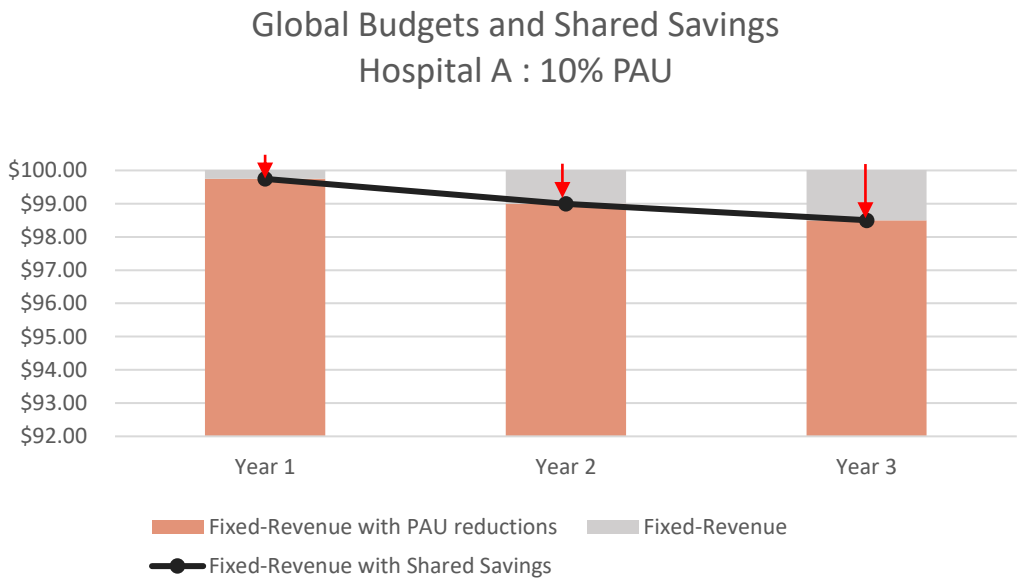
Hospital fixed-revenue models

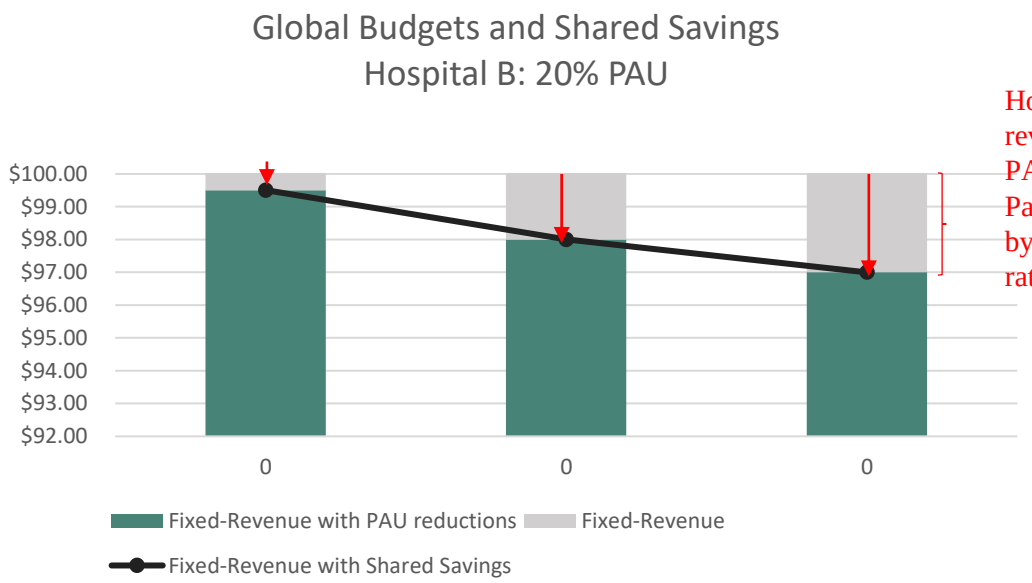


- **Global budgets are fixed-revenue models.**
  - Revenue base is determined by the historical revenue
  - Adjustments for quality, efficiency and shared savings
- **PAUs are potential opportunities for revenue savings under fixed-revenue**

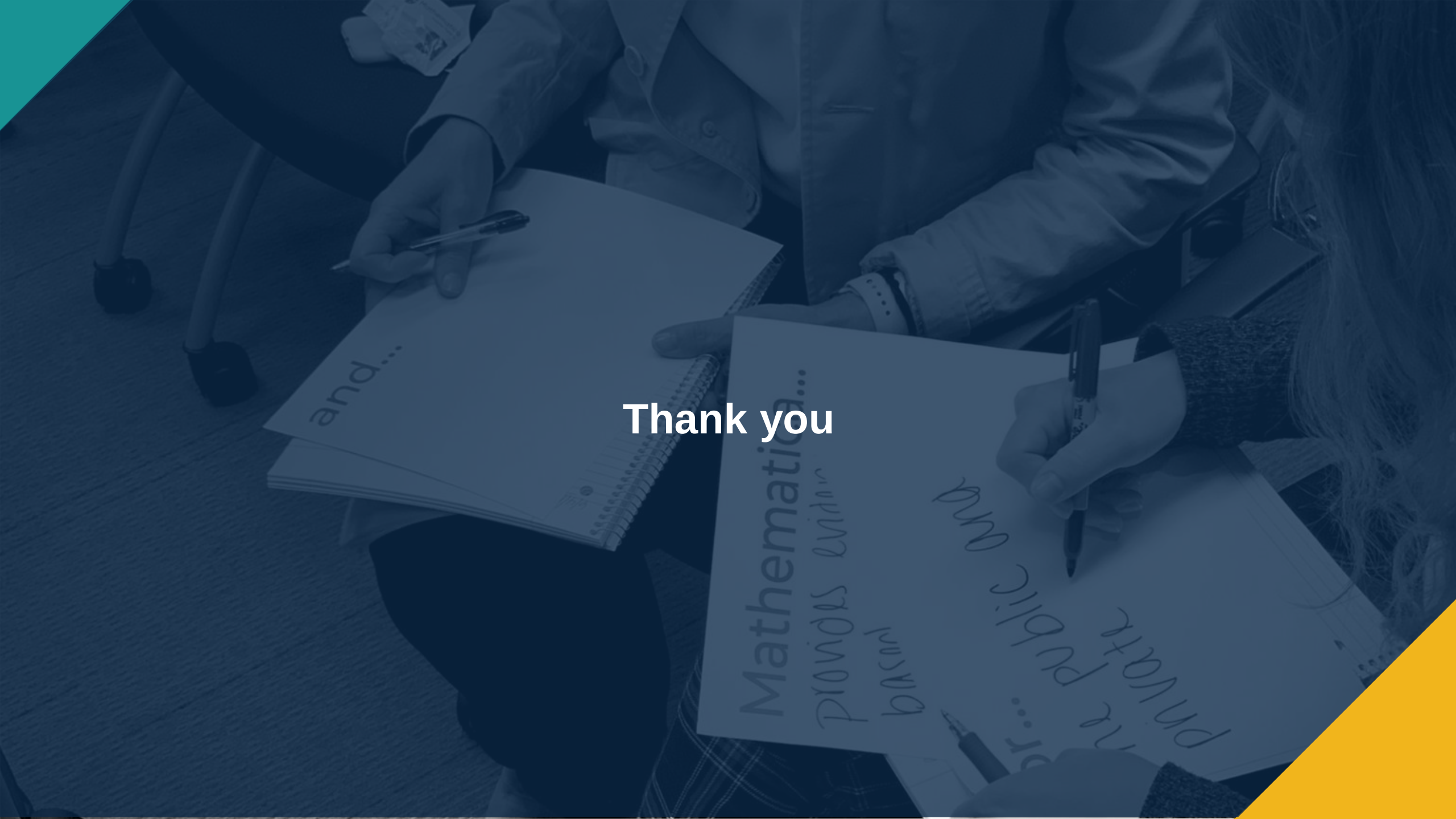
Savings opportunities that align with population health

PAUs are potential opportunities for revenue savings for hospitals under alternative payment models
Higher PAU levels will create more opportunity for hospital to save and higher shared savings for payors.





Hospitals keep the revenue if they reduce PAUs.
Payors reduce budget by the target reduction rate.



Thank you